

Statistics Related to Overweight and Obesity



U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES

WIN *Weight-control Information Network*

About one-third of adults in the United States are overweight, and 32.2 percent are obese, according to data from the National Health and Nutrition Examination Survey (NHANES) 2003 to 2004. This fact sheet presents statistics on the prevalence of overweight and obesity in the United States, as well as the health risks, mortality rates, and economic costs associated with these conditions. To understand these statistics, it is necessary to know how overweight and obesity are defined and measured, something this publication addresses. This fact sheet also explains why statistics from different sources may not match.

What are overweight and obesity?

Overweight refers to an excess of body weight compared to set standards. The excess weight may come from muscle, bone, fat, and/or body water. Obesity refers specifically to having an abnormally high proportion of body fat.¹ A person can be overweight without being obese, as in the example of a bodybuilder or other athlete who has a lot of muscle. However, many people who are overweight are also obese.

How are overweight and obesity measured?

A number of methods are used to determine if someone is overweight or obese. Some are based on the relationship between height and weight; others are based on measurements of body fat. The most commonly used method today is the body mass index (BMI). BMI is an index of weight adjusted for the height of an individual.

BMI can be used to screen for both overweight and obesity in adults. It is the measurement of choice for many obesity researchers and other health professionals, as well as the definition used in most published information on overweight and obesity. BMI is a calculation based on height and weight, and it is not gender-specific in adults. BMI does not directly measure percent of body fat, but it is a more accurate indicator of overweight and obesity than relying on weight alone.

BMI is found by dividing a person's weight in kilograms by height in meters squared. The mathematical formula is "**weight (kg)/height (m²)**."

Overweight and obesity are known risk factors for:

- diabetes
- coronary heart disease
- high blood cholesterol
- stroke
- hypertension
- gallbladder disease
- osteoarthritis (degeneration of cartilage and bone of joints)
- sleep apnea and other breathing problems
- some forms of cancer (uterine, breast, colorectal, kidney, and gallbladder)

Obesity is also associated with:

- complications of pregnancy
- menstrual irregularities
- hirsutism (presence of excess body and facial hair)
- stress incontinence (urine leakage caused by weak pelvic floor muscles)
- psychological disorders, such as depression
- increased surgical risk
- increased mortality



To determine BMI using pounds and inches, multiply weight in pounds by 704.5,* divide the result by height in inches, and then divide that result by height in inches a second time. (You can also use the BMI calculator at www.nhlbisupport.com/bmi or check the chart below.)

** The multiplier 704.5 is used by the National Institutes of Health (NIH). Other organizations may use a slightly different multiplier; for example, the American Dietetic Association suggests multiplying by 700. The variation in outcome (a few tenths) is insignificant.*

Body Mass Index Table

To use the table, find the appropriate height in the left-hand column and then move across to a given weight. The number at the top of the column is the BMI at that height and weight. Pounds have been rounded off.

BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Height (inches)								Body Weight (pounds)														
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172	177	181	186	191
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184	189	194	199	204
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	206	211
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196	202	207	213	218
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203	208	214	220	225
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209	215	221	227	232
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223	229	235	241	247
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255
68	125	131	138	144	151	158	164	171	177	184	190	197	204	210	216	223	230	236	243	249	256	262
69	128	135	142	149	155	162	169	176	182	189	196	203	210	216	223	230	236	243	250	257	263	270
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250	257	264	271	278
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257	265	272	279	286
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265	272	279	287	294
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272	280	288	295	302
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280	287	295	303	311
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287	295	303	311	319
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295	304	312	320	328

Source: *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults*, NHLBI, September 1998.

An expert panel convened by the National Heart, Lung, and Blood Institute (NHLBI) in cooperation with the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), both part of NIH, identified overweight as a BMI of 25 to 29.9 kg/m², and obesity as a BMI of 30 kg/m² or greater. However, overweight and obesity are not mutually exclusive, since people who are obese are also overweight.¹ Defining overweight as a BMI of 25 or greater is consistent with the recommendations of the World Health Organization (WHO)² and most other countries.

Calculating BMI is simple, quick, and inexpensive—but it does have limitations. One problem with using BMI as a measurement tool is that very muscular people may fall into the “overweight” category when they are actually healthy and fit. Another problem with using BMI is that people who have lost muscle mass, such as the elderly, may be in the “healthy weight” BMI category (BMI 18.5 to 24.9) when they actually have reduced nutritional reserves. BMI, therefore, is useful as a screening tool for individuals and as a general guideline to monitor trends in the population, but by itself is not diagnostic of an individual patient’s health status. Further assessment of patients should be performed to evaluate their weight status and associated health risks.

For more information on measuring overweight and obesity, see *Weight and Waist Measurement: Tools for Adults*.

Why do statistics about overweight and obesity differ?

The definitions or measurement characteristics for overweight and obesity have varied over time, from study to study, and from one part of the world to another. The varied definitions affect prevalence statistics and make it difficult to compare data from different studies. Prevalence refers to the total number of existing cases of a disease or condition in a given population at a given time. Some overweight- and obesity-related prevalence rates are presented as crude or unadjusted estimates, while others are *age-adjusted* estimates. Unadjusted prevalence estimates are used to present cross-

sectional data for population groups at a given point or time period. For age-adjusted rates, statistical procedures are used to remove the effect of age differences in populations that are being compared over different time periods. Unadjusted estimates and age-adjusted estimates will yield slightly different values.

Previous studies in the United States have used the 1959 or the 1983 Metropolitan Life Insurance tables of desirable weight-for-height as the reference for overweight.³ More recently, many Government agencies and scientific health organizations have estimated overweight using data from a series of cross-sectional surveys called the National Health Examination Surveys (NHES) and NHANES. The National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC) conducted these surveys. Each had three cycles: NHES I, II, and III spanned the period from 1960 to 1970, and NHANES I, II, and III were conducted in the 1970s, 1980s, and early 1990s. Since 1999, NHANES has become a continuous survey.

Many earlier reports use a statistically derived definition of overweight from NHANES II (1976 to 1980). This definition (based on the gender-specific 85th percentile values of BMI for 20- to 29-year-olds) is a BMI greater than or equal to (\geq) 27.3 for women and 27.8 for men. NHANES II further defines “severe overweight” (based on 95th percentile values) as a BMI \geq 31.1 for men and a BMI \geq 32.2 for women.⁴ Some studies round these numbers to a whole number, which affects the statistical prevalence. In 1995, WHO recommended a classification for three “grades” of overweight using BMI cutoff points of 25, 30, and 40.⁵ WHO suggested an additional cutoff point of 35 and slightly different terminology.²

The expert panel convened by NHLBI and NIDDK released a report in June 1998 that provided definitions for overweight and obesity similar to those used by WHO. The panel identified overweight as a BMI \geq 25 to less than ($<$) 30, and obesity as a BMI \geq 30. These

definitions, widely used by the Federal Government and more frequently by the broader medical and scientific communities, are based on evidence that health risks increase in individuals with a BMI ≥ 25 .

BMI cutoff points are a *guide* for definitions of overweight and obesity and are useful for comparative purposes across populations and over time; however, the health risks associated with overweight and obesity are on a continuum and do not necessarily correspond to rigid cutoff points. For example, an overweight individual with a BMI of 29 does not acquire additional health consequences associated with obesity simply by crossing the BMI threshold of ≥ 30 . However, health risks generally increase with increasing BMI.

Prevalence Statistics Related to Overweight and Obesity*

Overweight and obesity are found worldwide, and the prevalence of these conditions in the United States ranks high along with other developed nations.

Below are some frequently asked questions and answers about overweight and obesity statistics. Data are based on NHANES 2003 to 2004. Unless otherwise specified, the figures given represent age-adjusted estimates. Population numbers are based on the U.S. Census Bureau's *Census 2000*.

** The statistics presented here are based on the following definitions unless otherwise specified: healthy weight = BMI ≥ 18.5 to < 25 ; overweight = BMI ≥ 25 to < 30 ; obesity = BMI ≥ 30 ; and extreme obesity = BMI ≥ 40 .*

Q: How many adults age 20 and older are overweight (BMI ≥ 25)?

A: About one-third of U.S. adults are overweight.⁶

All Adults	68.5 million	(34.1 percent)
Women	57.5 million	(28.6 percent)
Men	79.8 million	(39.7 percent)

Q: How many adults age 20 and older are obese (BMI ≥ 30)?

A: Nearly one-third of U.S. adults are obese.⁶

All Adults	64.7 million	(32.2 percent)
Women	34.6 million	(33.2 percent)
Men	30.1 million	(31.1 percent)

Q: How many adults age 20 and older are at a healthy weight (BMI 18.5 to 24.9)?

A: Less than half of U.S. adults are at a healthy weight.⁷

All Adults	66.3 million	(32.9 percent)
Women	37.2 million	(35.4 percent)
Men	29.2 million	(30.4 percent)

Q: How has the prevalence of overweight and obesity in adults changed over the years?

A: The prevalence has steadily increased over the years among both genders, all ages, all racial/ethnic groups, all educational levels, and all smoking levels.⁸ From 1960 to 2002, the prevalence of overweight increased from 44.8 to 65.2 percent in U.S. adults age 20 to 74.⁷ The prevalence of obesity during this same time period more than doubled among adults age 20 to 74 from 13.3 to 30.5 percent, with most of this rise occurring in the past 20 years.⁷ From 1988 to 2002, the prevalence of extreme obesity increased from 2.9 to 4.9 percent, up from 0.8 percent in 1960.^{3,7,9} A recent Government study found no significant changes in the prevalence of overweight and obesity among women, leading investigators to conclude that increases in body weight may be leveling off in this group.⁶

Q: What is the prevalence of overweight or obesity in minorities?

A: The age-adjusted prevalence of overweight or obesity ($\text{BMI} \geq 25$) in racial/ethnic minorities—especially minority women—is generally higher than in whites in the United States.⁶

Non-Hispanic Black Women: 81.6 percent
 Mexican-American Women: 75.4 percent
 Non-Hispanic White Women: 58 percent

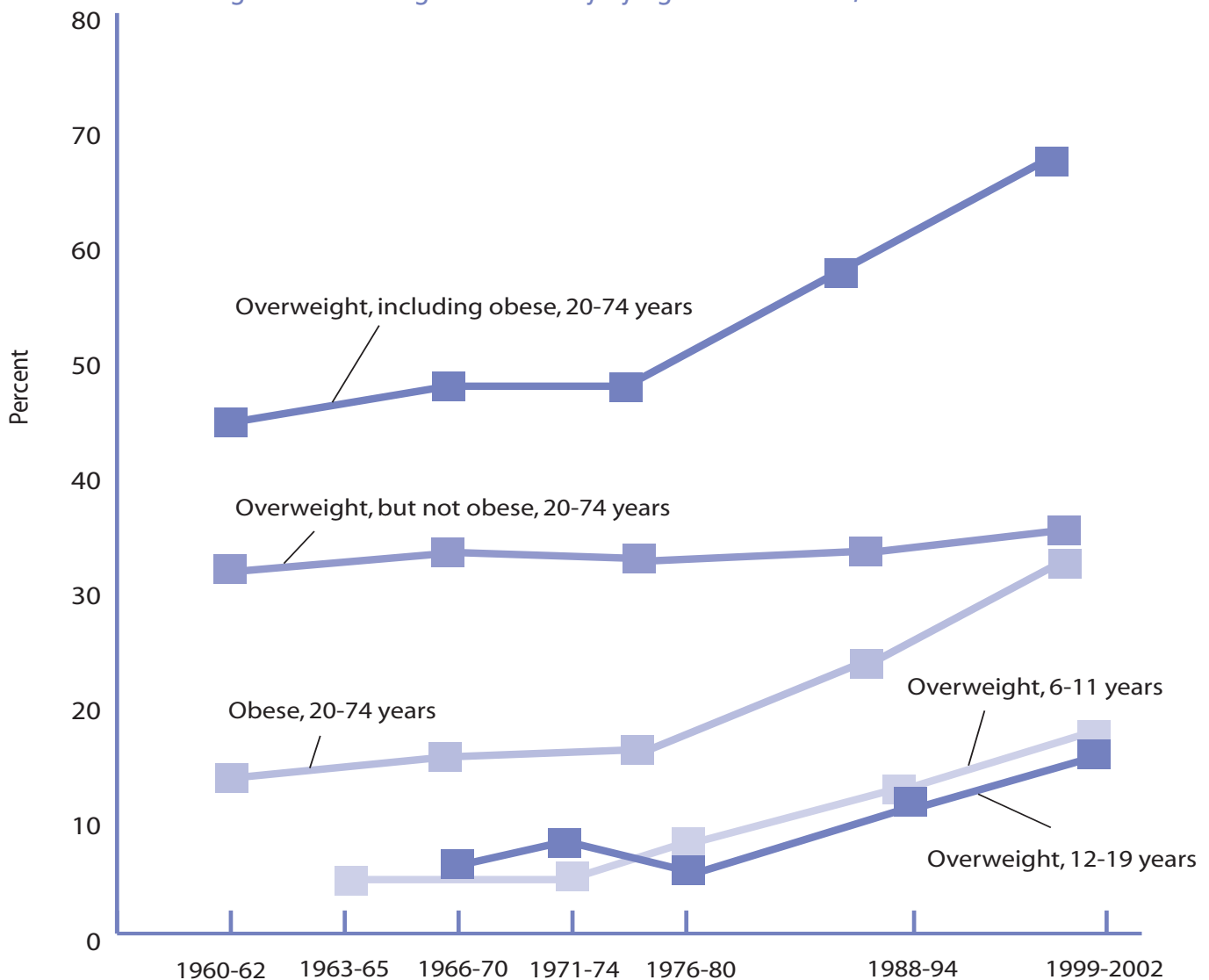
Non-Hispanic Black Men: 69.1 percent
 Mexican-American Men: 76.1 percent
 Non-Hispanic White Men: 70.6 percent
(Statistics are for populations age 20 and older.)

Studies using this definition of overweight and obesity provide ethnicity-specific data only for these three racial-ethnic groups. Studies using definitions of overweight and obesity from NHANES II have reported a high prevalence of overweight and obesity among Hispanics and American Indians. The prevalence of overweight and obesity in Asian Americans is lower than in the population as a whole.¹

Q: What is the prevalence of overweight and obesity in children and adolescents?

A: While there is no generally accepted definition for *obesity* as distinct from *overweight* in children and adolescents, the prevalence of overweight*

Figure 1. Overweight and Obesity by Age: United States, 1960–2002



Source: CDC/NCHS, Health, United States, 2005

is increasing for children and adolescents in the United States. Approximately 18.8 percent of children (age 6 to 11) and 17.4 percent of adolescents (age 12 to 19) were overweight in 2003 to 2004. In addition, 37.2 percent of children and 34.3 percent of adolescents in these age categories were either at risk for overweight or overweight (BMI for age at 85th percentile or higher).⁶

** Overweight is defined by the sex- and age-specific 95th percentile cutoff points of the revised NCHS/CDC growth charts. The revised growth charts incorporate smoothed BMI percentiles and are based on data from NHES II (1963 to 1965) and III (1966 to 1970), and NHANES I (1971 to 1974), II (1976 to 1980), and III (1988 to 1994). The CDC BMI growth charts specifically excluded NHANES III data for children older than 6 years.¹⁰*

Q: What is the prevalence of cancer in people who are overweight or obese?

A: While direct prevalence information is not available, a recent study found that individuals with BMIs ≥ 40 had death rates from cancer that were 52 percent higher for men and 62 percent higher for women than rates for their normal-weight counterparts. Overweight and obesity could account for 14 percent of cancer deaths among men and 20 percent among women in the United States. In both men and women, higher BMI is associated with higher death rates from cancers of the esophagus, colon and rectum, liver, gallbladder, pancreas, and kidney. The same trend applies to cancers of the stomach and prostate in men and cancers of the breast, uterus, cervix, and ovaries in women.¹³ In one study (the Nurses' Health Study), women gaining more than 20 pounds from age 18 to midlife doubled their risk of breast cancer, compared to those whose weight remained stable.¹⁶

Q: What is the mortality rate associated with obesity?

A: Most studies show an increase in mortality rates associated with obesity. Individuals who are obese have a 10- to 50-percent increased risk of death from all causes, compared with healthy weight

individuals (BMI 18.5 to 24.9). Most of the increased risk is due to cardiovascular causes.¹⁷ Obesity is associated with about 112,000 excess deaths per year in the U.S. population relative to healthy weight individuals.¹⁵

Economic Costs Related to Overweight and Obesity

As the prevalence of overweight and obesity has increased in the United States, so have related health care costs—both direct and indirect. Direct health care costs refer to preventive, diagnostic, and treatment services such as physician visits, medications, and hospital and nursing home care. Indirect costs are the value of wages lost by people unable to work because of illness or disability, as well as the value of future earnings lost by premature death.

Most of the statistics presented here represent the economic cost of overweight and obesity in the United States in 1995, updated to 2001 dollars.¹⁸ Unless otherwise noted, these statistics are adapted from Wolf and Colditz¹⁹, who based their data on existing epidemiological studies that defined overweight and obesity as a BMI ≥ 29 . Because the prevalence of overweight and obesity has increased since 1995, the costs today are higher than the figures given here.

Q: What is the cost of overweight and obesity?

A: Total cost: \$117 billion

Direct cost: \$61 billion*

Indirect cost: \$56 billion

**A recent study estimated annual medical spending due to overweight and obesity (BMI ≥ 25) to be as much as \$92.6 billion in 2002 dollars—9.1 percent of U.S. health expenditures.²⁰*

Q: What is the cost of lost productivity related to obesity?

A: The cost of lost productivity related to obesity among Americans age 17 to 64 is \$3.9 billion. This value considers the following annual numbers (for 1994):

Workdays lost: \$39.3 million
Physician office visits: \$62.7 million
Restricted-activity days: \$239 million
Bed-days: \$89.5 million

Other Statistics Related to Overweight and Obesity

Q: How physically active is the U.S. population?

A: Only 26 percent of U.S. adults engage in vigorous leisure-time physical activity three or more times per week (defined as periods of vigorous physical activity lasting 10 minutes or more). About 59 percent of adults do no vigorous physical activity at all in their leisure time.²¹

About 25 percent of young people (age 12 to 21) participate in light-to-moderate activity (e.g., walking, bicycling) nearly every day. About 50 percent regularly engage in vigorous physical activity. Approximately 25 percent report no vigorous physical activity, and 14 percent report no recent vigorous or light-to-moderate physical activity.²²

Q: What is the cost of physical inactivity?

A: The direct cost of physical inactivity may be as high as \$24.3 billion.²³

Q: What are the benefits of physical activity?

A: In addition to helping control weight, physical activity decreases the risk of dying from coronary heart disease and reduces the risk of developing diabetes, hypertension, and colon cancer.²²

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The Weight-control Information Network (WIN) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of the National Institutes of Health (NIH), which is the Federal Government's lead agency responsible for biomedical research on nutrition and obesity. Authorized by Congress (Public Law 103-43), WIN provides the general public, health professionals, the media, and Congress with up-to-date, science-based information on weight control, obesity, physical activity, and related nutritional issues.

Publications produced by WIN are reviewed by both NIDDK scientists and outside experts. This fact sheet was also reviewed by David F. Williamson, Ph.D., CAPT U.S. Public Health Service, Centers for Disease Control and Prevention (CDC), Division of Diabetes Translation; Katherine Flegal, Ph.D., Senior Research Scientist, National Center for Health Statistics, CDC; and Rachel Ballard-Barbash, M.D., M.P.H., Associate Director, Applied Research Program, National Cancer Institute, NIH.



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October 2006

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